

Claims:

1. Method for aerating multiple membrane modules of a membrane filter system operating in submerged operation,

whereby air or a gas is supplied to the membrane modules from a common source, which air or gas rises in the liquid to be purified, in the form of bubbles, on the outside of the membrane, and

whereby control valves are disposed in the feed lines to the membrane modules, which valves are activated according to a predetermined circuit schematic, and release or block the supply of air to an assigned membrane module,

characterized in that in a first method step, the control valve assigned to a first membrane module is open, while the control valves of all the other membrane modules are closed, so that aeration of the first membrane module takes place,

that at the beginning of a second method step, the control valve assigned to a second membrane module is additionally opened, so that two partial air streams occur, with which the first and the second membrane module are impacted,

that at the beginning of a third method step, the control valve assigned to the first membrane module is closed, for aeration of the second membrane module, and

that all of the membrane modules are aerated in accordance with the three method steps, one after the other, until the aeration cycle starts anew with the first membrane module.

2. Method according to claim 1, characterized in that the control valves can only assume either the open or closed position.

3. Method according to claim 1 or 2, characterized in that to avoid penetration of liquid into air-carrying parts of the membrane modules, a blocking air volume stream flows through all of the feed lines, even when the control valves are in the closed position, which stream is small in comparison with the aeration air stream that exits when the control valve is open.

4. Method according to claim 3, characterized in that the blocking air volume stream amounts to less than 5% of that of the volume stream that exits from the corresponding feed line when

the control valve in question is the only one in the open position.

5. Method according to one of claims 1 to 4, characterized in that the aeration cycle amounts to more than 60 s, preferably more than 120 s.

6. Method according to one of claims 1 to 5, characterized in that within the aeration cycle, all of the membrane modules are aerated with partial air streams, at the same time, once or multiple times, which partial air streams result from opening of all of the control valves.

7. Method according to one of claims 1 to 5, characterized in that different groups of at least three membrane modules are impacted with the total air stream, within the aeration cycle, one group after the other, whereby the air stream distributes itself approximately uniformly over the membrane modules that belong to the group, by means of opening the control valves, and whereby the control valves on all the other membrane modules are closed.

8. Method according to one of claims 1 to 7, characterized in that all of the membrane modules are aerated simultaneously, by

means of opening the assigned control valves, between the aeration cycles.

9. Method according to one of claims 1 to 7, characterized in that a group of at least three membrane modules is impacted with the air stream, in each instance, between the aeration cycles, whereby a first group of membrane modules is selected between the first and the second aeration cycle, a second group of membrane modules is selected between the second and the third aeration cycle, etc.

10. Method according to one of claims 1 to 9, characterized in that the time during which all of the membrane modules are or a group of at least three membrane modules is aerated at the same time is at least just as long as the time interval during which the membrane modules are individually aerated during the aeration cycle.